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L22: Entry 27 of 41 File: USPT Dec 8, 1998

DOCUMENT-IDENTIFIER: US 5846550 A
TITLE: Composition in the form of an anhydrous gel with a wax-free fatty phase, containing an organomodified clay, expanded thermoplastic hollow particles and a pyrogenous silica, and its uses in topical application

CLAIMS:

11. A composition according to claim 10, wherein said silicone oils include cyclomethicone and polydimethylsiloxane oils.

33. A composition according to claim 29, wherein said silicone gel comprises a linear polydimethylsiloxane of low viscosity and a partially crosslinked polydimethylsiloxane of three-dimensional structure.

39. A composition according to claim 1, wherein said composition also contains at least one adjuvant selected from cosmetic or dermatological active agents, antioxidants, bactericides, melanin, moisturizing agents, sunscreens, fragrances, preserving agents and fillers.

polysiloxane

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L22: Entry 8 of 41 File: USPT May 7, 2002

US-PAT-NO: 6382254
DOCUMENT-IDENTIFIER: US 6382254 B1

TITLE: Microfluidic valve and method for controlling the flow of a liquid

DATE-ISSUED: May 7, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yang; Zhihao	Webster	NY		
Sharma; Ravi	Fairport	NY		

US-CL-CURRENT: 137/807; 137/341, 137/828, 251/11

CLAIMS:

What is claimed is:

1. A microfluidic valve for controlling the flow of a subject material through a microfluidic channel comprising:

a) a microfluidic channel comprising a passageway,

b) a heater in contact with at least a portion of said microfluidic channel,

c) a carrier fluid comprising said subject material and an amount of thermally-responsive material so that said carrier fluid can be thickened by heat from said heater to cause a reduction in flow of said carrier fluid through said microfluidic channel.

2. The valve of claim 1 wherein said thermally-responsive material can be gelled by heat from said heater.

3. The valve of claim 1 wherein said thermally-responsive material is a polyethylene oxide-containing block copolymer.

4. The valve of claim 3 wherein said polyethylene oxide-containing block copolymer is a tri-block copolymer of polyethylene oxide-polypropylene oxide-polyethylene oxide.

5. The valve of claim 1 wherein said thermally-responsive material is a methyl cellulose polymer.

6. The valve of claim 1 wherein said carrier fluid comprises from about 0.01 to

about 70% by weight of thermally-responsive material.

7. The valve of claim 1 wherein said subject material comprises a dye, a pigment, a protein, DNA, a peptide, an antibody, an antigen, a cell, an organic compound, a surfactant, an emulsion, a dispersion, a polysaccharide, colloidal particles, organic or inorganic compounds, nucleic acids, or extracts made from biological materials.

8. The valve of claim 1 wherein said heater is contained in said microfluidic channel.

9. The valve of claim 1 wherein said passageway is enclosed by silicon, glass, polyimide, quartz, ceramic, polymethylmethacrylate, polydimethylsiloxane or photoresist material.

10. The valve of claim 1 wherein said passageway is partially enclosed.

11. The valve of claim 10 wherein said passageway is a groove.

12. A method for controlling the flow of a material through a microfluidic channel comprising heating a carrier fluid in a microfluidic channel, said carrier fluid comprising said subject material and an amount of thermally-responsive material, said heating causing said carrier fluid to be thickened by heat to cause a reduction in flow of said carrier fluid through said microfluidic channel.

13. The method of claim 12 wherein said thermally-responsive material can be gelled by heat.

14. The method of claim 12 wherein said thermally-responsive material is a polyethylene oxide-containing block copolymer.

15. The method of claim 14 wherein said polyethylene oxide-containing block copolymer is a tri-block copolymer of polyethylene oxide-polypropylene oxide-polyethylene oxide.

16. The method of claim 12 wherein said thermally-responsive material is a methyl cellulose polymer.

17. The method of claim 12 wherein said carrier fluid comprises from about 0.01 to about 70% by weight of thermally-responsive material.

18. The method of claim 12 wherein said subject material comprises a dye, a pigment, a protein, DNA, a peptide, an antibody, an antigen, a cell, an organic compound, a surfactant, an emulsion, a dispersion, a polysaccharide, colloidal particles, organic or inorganic compounds, nucleic acids, or extracts made from biological materials.

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L25: Entry 28 of 96 File: USPT Nov 28, 2000

DOCUMENT-IDENTIFIER: US 6153113 A
TITLE: Method for using ligands in particle separation

CLAIMS:

22. The method of claim 21, wherein the exterior surface of the first particles includes a surface modifying agent coomprising a polylactone-polysiloxane-polylactone triblock copolymer.

24. The method of claim 1, wherein the second particles include at least one of the group consisting of: antigen-specific white blood cells, CD2+ cells, CD3+ cells, CD4+ cells, CD8+ cells, CD9+ cells, CD10+ cells, CD14+ cells, CD15+ cells, CD19+ cells, CD20+ cells, CD34+ cells, CD38+ cells, CMRF-44+ cells, CD45+ cells, CD56+ cells, CD83+ cells, glycophorin+ cells, cytokeratin+ cells, EPCAM+ cells, and combinations thereof.

25. The method of claim 1, wherein the third particles include at least one of the group consisting of: red blood cells, antigen-specific white blood cells, platelets, proteins, drugs, cytokines, and combinations thereof.

26. The method of claim 1, wherein the second and third particles include different types of antigen-specific white blood cells.

45. The method of claim 44, wherein the exterior surface of the first particles includes a surface modifying agent coomprising a polylactone-polysiloxane-polylactone triblock copolymer.

47. The method of claim 33, wherein the second particles include at least one of the group consisting of: antigen-specific white blood cells, CD2+ cells, CD3+ cells, CD4+ cells, CD8+ cells, CD9+ cells, CD10+ cells, CD14+ cells, CD15+ cells, CD19+ cells, CD20+ cells, CD34+ cells, CD38+ cells, CMRF-44+ cells, CD45+ cells, CD56+ cells, CD83+ cells, glycophorin+ cells, cytokeratin+ cells, EPCAM+ cells, and combinations thereof.

48. The method of claim 33, wherein the third particles include at least one of the group consisting of: red blood cells, antigen-specific white blood cells, platelets, proteins, drugs, cytokines, and combinations thereof.

49. The method of claim 33, wherein the second and third particles include different types of antigen-specific white blood cells.

50. The method of claim 33, wherein the liquid carries antigen-specific white blood cells, the saturated fluidized bed of particles permitting at least some of the antigen-specific white blood cells to flow from the fluid chamber.

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L25: Entry 36 of 96 File: USPT Nov 17, 1998

DOCUMENT-IDENTIFIER: US 5837454 A
TITLE: Process for the manufacture of wholly microfabricated biosensors

CLAIMS:

4. The method of claim 1 in which said permselective layer comprises a copolymer of a siloxane compound and a nonsiloxane compound.

5. The method of claim 4 in which said copolymer is selected from the group consisting of dimethylsiloxane-alkene oxide, tetramethyldisiloxane-divinylbenzene, tetramethyldisiloxane-ethylene, dimethylsiloxane-silphenylene, dimethylsiloxane-silphenylene oxide, dimethylsiloxane, methylstyrene, and dimethylsiloxane-bisphenol A carbonate, and mixtures thereof.

6. The method of claim 4 in which said copolymer is dimethylsiloxane-bisphenol A carbonate.

10. The method of claim 1 or 7 in which said ligand receptor is selected from the group consisting of ionophores, cofactors, enzymes, antibodies, antigens, lectins, neurochemical receptors, active fragments or subunits of the preceding molecules and mixtures thereof.

12. The method of claim 1 or 7 in which said ligand receptor is an antigen.

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L25: Entry 33 of 96 File: USPT Feb 15, 2000

US-PAT-NO: 6024918
DOCUMENT-IDENTIFIER: US 6024918 A

TITLE: Method for attachment of biomolecules to surfaces of medical devices

DATE-ISSUED: February 15, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hendriks; Marc	Brunssum			NL
Verhoeven; Michel	Maastricht			NL
Cahalan; Patrick	Geleen			NL
Cahalan; Linda	Geleen			NL
Koulik; Edouard	Maastricht			NL
Gillissen; Mirian	Valkenburg A/D Geul			NL

US-CL-CURRENT: 422/44; 604/6.14

CLAIMS:

What is claimed is:

1. A method for making a medical device having a biomolecule immobilized on a substrate surface, the method comprising:

coating the substrate surface with an amino-functional polysiloxane; and

contacting the amino-functional polysiloxane coated surface with a biomolecule under conditions effective to immobilize the biomolecule.

2. The method of claim I wherein the step of coating the substrate surface comprises:

coating the substrate surface with an amino-functional polysiloxane in a liquid carrier;

removing the liquid carrier; and

contacting the amino-functional polysiloxane coating with water to cure the coating.

3. The method of claim 2 wherein the steps of removing the liquid carrier and contacting the coating with water comprises contacting the substrate surface having the amino-functional polysiloxane in a liquid carrier thereon with moist air.

4. The method of claim 1 the step of contacting the amino-functional polysiloxane coated surface with a biomolecule under conditions effective to immobilize the biomolecule comprises contacting the amino-functional polysiloxane coated surface with a biomolecule in a liquid carrier at a temperature of at least about 20.degree. C. for at least about 30 seconds.

5. The method of claim 4 wherein the liquid carrier comprises a periodate in a buffered aqueous solution.

6. The method of claim 5 wherein the periodate comprises an alkali metal periodate.

7. The method of claim 5 wherein the biomolecule comprises heparin and the periodate is present in a sufficient amount to form aldehyde groups on the heparin.

8. The method of claim 7 wherein the buffered aqueous solution has a pH in a range of about 4.5 to about 8.

9. The method of claim I wherein the biomolecule is selected from the group of an antibacterial agent, an antimicrobial agent, an anticoagulant, an antithrombotic agent, a platelet agent, an anti-inflammatory, an enzyme, a catalyst, a hormone, a growth factor, a drugs, a vitamin, an antibody, an antigen, a nucleic acid, a dye, a DNA segment, an RNA segment, a protein, and a peptide.

10. The method of claim 1 wherein the biomolecule is synthetically derived or naturally occurring.

11. The method of claim 1 wherein the substrate is a metal, polymer, ceramic, or glass.

12. The method of claim 1 wherein the surface formed is biocompatible.

13. The method of claim 1 wherein the surface formed is blood compatible.

14. The method of claim 13 wherein the substrate to which there is a biomolecule attached through an amino-functional polysiloxane demonstrates at least a 20% reduction in the amount of elastase formed relative to the same substrate without the biomolecule and the polysiloxane attached thereto when contacted with human blood.

15. The method of claim 13 wherein the substrate to which there is a biomolecule attached through an amino-functional polysiloxane demonstrates at least a 10% reduction in the amount of thrombin-antithrombin complex formed relative to the same substrate without the biomolecule and the polysiloxane attached thereto when contacted with human blood.

16. The method of claim 13 wherein the substrate to which there is a biomolecule attached through an amino-functional polysiloxane demonstrates at least a 15% reduction in the amount of Platelet Factor 4 formed relative to the same substrate without the biomolecule and the polysiloxane attached thereto when contacted with human blood.

17. The method of claim 13 wherein the substrate to which there is a biomolecule attached through an amino-functional polysiloxane demonstrates at least a 40% reduction in the amount of terminal complement complex formed relative to the same substrate without the biomolecule and the polysiloxane attached thereto when contacted with human blood.

18. The method of claim 13 wherein the substrate to which there is a biomolecule attached through an amino-functional polysiloxane has less than about 1% of the surface of the substrate covered by platelets.

19. The method of claim 1 wherein the medical device is a stent.

20. The method of claim 1 wherein the medical device is a blood oxygenator.

21. A method for making a medical device having a biomolecule immobilized on a substrate surface, the method comprising:

coating the substrate surface with a solution of an amino-functional polysiloxane;

drying the amino-functional polysiloxane solution to form a coated surface having amine functionality;

contacting the coated surface with the amine functionality with a biomolecule to form a biocompatible surface.

22. The method of claim 21 wherein prior to the step of contacting the coated surface the method includes a step of combining heparin with a periodate to form an aldehyde-functional heparin.

23. The method of claim 1 wherein the medical device is a blood oxygenator and the substrate being coated includes hollow fibers.

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L25: Entry 48 of 96 File: USPT Jan 9, 1996

DOCUMENT-IDENTIFIER: US 5482830 A
TITLE: Devices and methods for detection of an analyte based upon light interference

CLAIMS:

1. An optical assay device for an analyte comprising:

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising an intensity of at least one wavelength of light different from said first color, in response to said light when said analyte is present on an attachment layer,

said attachment layer selected from the group consisting of a polymeric silane, polymeric siloxane, a dendrimer, and film forming latexes, provided on an uppermost surface of said substrate and,

a layer of non-specific protein, provided on said attachment layer, present in an amount that allows said analyte to bind to said attachment layer and which improves signal generation when a specific secondary reagent binds to said analyte present on the attachment layer of the device.

3. An assay device for an analyte comprising;

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising an intensity of at least one wavelength of light different from said first color, in response to said light when said analyte is present on an attachment layer,

said attachment layer, on an uppermost surface of said substrate, selected from the group consisting of a polymeric silane, polymeric siloxane, a dendrimer, and film forming latexes which promotes binding of the analyte to said attachment layer by hydrophobic interactions, and

a layer of non-specific protein provided on said attachment layer, said non-specific protein present in an amount that allows said analyte to bind to said attachment layer.

5. Device for the determination of Chlamydia or gram negative bacterial antigen comprising;

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising an intensity of at least one said

wavelength of light different from said first color, in response to said light when said antigen is present on an attachment layer,

said attachment layer, on an uppermost surface of said substrate, selected from the group consisting of dendrimers, polymeric silanes, polymeric siloxanes, and film forming latexes which promote binding of the antigen to said attachment layer by hydrophobic interaction, and

a layer of non-specific protein provided on said attachment layer, said non-specific protein present in an amount that allows said antigen to bind to said attachment layer.

6. The device of claim 5, wherein binding of said antigen is detected by an ELISA.

7. The device of claim 5, wherein binding of said antigen is detected by a fluorescent or chemiluminescent label attached to a specific binding reagent.

8. An assay device for an analyte comprising;

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising a combination of wavelengths of light different from said first color, in response to said light when said analyte is present on an attachment layer,

an anti-reflective film provided on an uppermost surface of said substrate,

said attachment layer, provided on said anti-reflective film, selected from the group consisting of a polymeric silane, polymeric siloxane, a dendrimer, and film forming latexes which promotes binding of the analyte to said attachment layer by hydrophobic interactions, and

a layer of non-specific protein provided on said attachment layer, said non-specific protein present in an amount that allows said analyte to bind to said attachment layer.

9. Device for the determination of Chlamydia or gram negative bacterial antigen comprising;

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising a combination of wavelengths of light different from said first color, in response to said light when said antigen is present on an attachment layer,

an anti-reflective film provided on an uppermost surface of said substrate,

said attachment layer, provided on said anti-reflective film, selected from the group consisting of dendrimers, polymeric silanes, polymeric siloxanes, and film forming latexes which promote binding of the antigen to said attachment layer by hydrophobic interaction, and

a layer of non-specific protein provided on said attachment layer, said non-specific protein present in an amount that allows said antigen to bind to said attachment layer.

10. The device of claim 5 or 9, wherein the antigen is lipopolysaccharide.

11. The device of claim 5 or 9, wherein the antigen is a major outer membrane protein.

13. An optical assay device for an analyte comprising:

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising a combination of wavelengths of light different from said first color, in response to said light when said analyte is present on an attachment layer,

an anti-reflective film, provided on an uppermost surface of said substrate,

said attachment layer, provided on said anti-reflective film, selected from the group consisting of a polymeric silane, polymeric siloxane, a dendrimer, and film forming latexes on said substrate, wherein the analyte of interest is captured by a non-specific interaction with said attachment layer and said analyte is detected by the binding of a specific secondary reagent to said analyte.

18. An optical assay device for an analyte comprising:

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising an intensity of at least one wavelength of light different from said first color, in response to said light when said analyte is present on an attachment layer,

an attachment layer, provided on said substrate, selected from the group consisting of a polymeric silane, polymeric siloxane, a dendrimer, and film forming latexes on said substrate, wherein the analyte of interest is captured by a non-specific interaction with said attachment layer and said analyte is detected by the binding of a specific secondary reagent to said analyte.

22. An optical assay device for an analyte comprising:

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising a combination of wavelengths of light different from said first color, in response to said light when said analyte is present on an attachment layer,

an anti-reflective film provided on an uppermost surface of said substrate,

said attachment layer selected from the group consisting of a polymeric silane, polymeric siloxane, a dendrimer, and film forming latexes, provided on said anti-reflective film and,

a layer of non-specific protein, provided on said attachment layer, present in an amount that allows said analyte to bind to said attachment layer and which improves the signal generation when a specific secondary reagent binds to said analyte present on the surface of the device.

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L25: Entry 50 of 96 File: USPT Nov 14, 1995

DOCUMENT-IDENTIFIER: US 5466575 A
TITLE: Process for the manufacture of wholly microfabricated biosensors

CLAIMS:

22. The method of claim 3 or 20 in which said polymer film comprises a copolymer of a siloxane compound and a nonsiloxane compound.

23. The method of claim 22 in which said copolymer is selected from the group consisting of dimethylsiloxanealkene oxide, tetramethyldisiloxane-divinylbenzene, tetramethyldisiloxane-ethylene, dimethylsiloxanesilphenylene, dimethylsiloxane-silphenylene oxide, dimethylsiloxane-methylstyrene, and dimethylsiloxanebisphenol A carbonate, and mixtures thereof.

24. The method of claim 22 in which said copolymer is dimethylsiloxane-bisphenol A carbonate.

43. The method of claim 39 or 40 in which said bioactive molecule is selected from the group consisting of ionophores, cofactors, polypeptides, proteins, glycoproteins, enzymes, immunoglobulins, antibodies, antigens, lectins, neurochemical receptors, oligonucleotides, polynucleotides, molecules of DNA, molecules of RNA, active fragments or subunits or single strands of the preceding molecules, and mixtures thereof.

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L25: Entry 49 of 96 File: USPT Nov 21, 1995

DOCUMENT-IDENTIFIER: US 5468606 A
TITLE: Devices for detection of an analyte based upon light interference

CLAIMS:

1. An optical assay device for detecting the presence or amount of an analyte of interest comprising:

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising a combination of wavelengths of light different from said first color in response to said light when said analyte is present on said surface,

an anti-reflective film provided on said substrate,

an attachment layer selected from the group consisting of a polymeric silane, polymeric siloxane, and a dendrimer, on said anti-reflective film and,

a specific binding layer for said analyte, attached to said attachment layer.

2. The device of claim 1, wherein said substrate comprises glass;

an aluminum layer of between 1900 and 2100 .ANG. thickness is provided on said glass;

an amorphous silicon layer having a thickness between 900 and 1100 nm, is provided on said aluminum layer;

said anti-reflective film lies on top of said amorphous silicon layer and has a thickness between 480 and 520 .ANG.;

said attachment layer is an aminoalkyl-T-structured branched siloxane of between 90 and 110 .ANG. thickness; and

said specific binding layer is an antibody layer of between 30 and 60 .ANG. thickness.

3. The device of claim 1, wherein said substrate comprises monocrystalline silicon;

the anti-reflective film is selected from the group consisting of silicon nitride, composites of silicon/silicon dioxide, titanates and titanium dioxide and is is 480-520 .ANG. thick;

the attachment layer is aminoalkyl-T-structured branched siloxane and is between 90 and 110 .ANG. thick;

and the specific binding layer is an antibody and is between 30 and 60 .ANG. thick.

4. The device of claim 1, wherein said substrate is glass; and further comprises

an amorphous silicon layer between 900 and 1100 nm thick is provided on said glass;

the anti-reflective film lies on top of said amorphous silicon layer and is composed of a material selected from the group consisting of silicon nitride, composites of silicon/silicon dioxide, titanates, and titanium dioxide and is 480-520 .ANG. thick;

the attachment layer is an aminoalkyl-T-structured branched siloxane and is between 90 and 110 .ANG. thick;

and the specific binding layer is an antibody and is between 30 and 60 .ANG. thick.

5. The device of claim 1, wherein said substrate is plastic; and further comprises

an amorphous silicon layer between 900 and 1100 nm thick is provided on said plastic;

the anti-reflective film lies on top of said amorphous silicon layer and is composed of a material selected from the group consisting of silicon nitride, composites of silicon/silicon dioxide, titanates, and titanium dioxide and is 480-520 .ANG. thick;

the attachment layer is an aminoalkyl-T-structured branched siloxane and is between 90 and 110 .ANG. thick;

and the specific binding layer is an antibody and is between 30 and 60 .ANG. thick.

6. The device of claim 1, wherein said substrate is plastic; and further comprises

an aluminum layer between 1800 and 2200 .ANG. thickness is provided on said plastic

an amorphous silicon layer has a thickness between 900 and 1100 nm, and is provided on said aluminum layer;

the anti-reflective film is selected from the group consisting of silicon nitride, composites of silicon/silicon dioxide, titanates, and titanium dioxide and is 480-520 .ANG. thick and is provided on said amorphous silicon layer;

the attachment layer is aminoalkyl-T-structured branched siloxane and is between 90 and 110 .ANG. thick;

and the specific binding layer is an antibody and is between 30 and 60 .ANG. thick.

13. An optical assay device for detecting the presence or amount of an analyte of interest comprising:

a substrate consisting of one or more layers having an optically active surface exhibiting a first color in response to light impinging thereon, and exhibiting a second color comprising an intensity of at least one wavelength of light different from said first color, in response to said light when said analyte is present on said surface;

an attachment layer selected from the group consisting of a polymeric silane, polymeric siloxane, and a

dendrimer, on said substrate and;

a specific binding layer for said analyte, attached to said attachment layer.

24. The device of claim 18, wherein said analyte is selected from the group consisting of rheumatoid factor, IgE antibodies specific for Birch pollen, carcinoembryonic antigen, Streptococcus Group A antigen, viral antigens, antigens associated with autoimmune disease, allergens, a tumor or an infectious microorganism, Streptococcus Group B antigen, HIV I or HIV II antigen or host response to said virus, antigens specific to Respiratory Syncytial virus or host response to said virus, and antigens specific to Hepatitis.

27. The device of claim 18, wherein said specific binding layer is formed from material selected from the group consisting of antigens, antibodies, oligonucleotides, chelators, enzymes, nucleic acids, polysaccharides, lipids, carbohydrates, metals, and receptors for said materials.

31. The device of any of claims 1 or 13, wherein said analyte is selected from the group consisting of rheumatoid factor, IgE antibodies specific for Birch pollen, carcinoembryonic antigen, Streptococcus Group A antigen, viral antigens, antigens associated with autoimmune disease, allergens, a tumor or an infectious microorganism, Streptococcus Group B antigen, HIV I or HIV II antigen or host response to said virus, antigens specific to Respiratory Syncytial virus or host response to said virus, and antigens specific to Hepatitis.

33. The device of claims 1 or 13, wherein said specific binding layer is formed from material selected form the group consisting of antigens, antibodies, oligonucleotides, chelators, enzymes, nucleic acids, polysaccharides, lipids, carbohydrates, metals, and receptors for said materials.

34. The device of any of claims 1 or 13, wherein said analyte is selected from the group consisting of an antibody, antigen, enzyme, hormone, polysaccharides, proteins, lipids, carbohydrates, drugs and nucleic acid.

36. The device of claim 1 or 13 wherein said analyte is selected from the group consisting of an antigen derived from a bacterium, an antigen derived form a virus, a microorganism, a hapten, a drug of abuse, a therapeutic drug, dioxane, PCB's, heavy metals, total petroleum hydrocarbons, chlorinated hydrocarbons, petroleum byproducts, pentachlorophenol, PNA's, an antibody, an enzyme, and a nucleic acid.

38. The device of any of claims 1 or 13, wherein the analyte of interest is the Streptococcus group A or B antigen.

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L25: Entry 55 of 96 File: USPT Feb 28, 1995

DOCUMENT-IDENTIFIER: US 5393527 A
TITLE: Stabilized microspheres and methods of preparation

CLAIMS:

2. The composition of claim 1 wherein the silicone is a polydimethyldiphenyl siloxane.

4. The composition of claim 3 wherein the ligand is selected from the group consisting of antigens, haptens, antibodies, biotin, avidin, streptavidin and oligonucleotides.

10. The composition of claim 9 wherein the core comprises polydimethyldiphenyl siloxane and the ligand is cardiolipin.

11. The composition of claim 9 wherein the silicone is a polydimethyldiphenyl siloxane.

L25: Entry 59 of 96 File: USPT Apr 6, 1993

DOCUMENT-IDENTIFIER: US 5200051 A
TITLE: Wholly microfabricated biosensors and process for the manufacture and use thereof

CLAIMS:

22. The microfabricated biosensor of claim 2 or 7 in which said polymer film comprises a copolymer of a siloxane compound and a nonsiloxane compound.

23. The microfabricated biosensor of claim 22 in which said copolymer is selected from the group consisting of dimethylsiloxane-alkene oxide, tetramethyldisiloxane-divinylbenzene, tetramethyldisiloxane-ethylene, dimethylsiloxane-silphenylene, dimethylsiloxane-silphenylene oxide, dimethylsiloxane-methylstyrene, and dimethylsiloxanebisphenol A carbonate, and mixtures thereof.

24. The microfabricated biosensor of claim 22 in which said copolymer is dimethylsiloxane-bisphenol A carbonate.

36. The microfabricated biosensor of claim 1, 4, 6, 33, or 34 in which said bioactive molecule is selected from the group consisting of ionophores, cofactors, polypeptides, proteins, glycoproteins, enzymes, immunoglobulins, antibodies, antigens, lectins, neurochemical receptors, oligonucleotides, polynucleotides, molecules of DNA, molecules of RNA, active fragments or subunits or single strands of the preceding molecules, and mixtures thereof.

43. The microfabricated biosensor of claim 39, or 41 which said ligand receptor is selected from the group consisting of ionophores, confactors, polypeptides, proteins, glycoproteins, enzymes, immunoglobulins, antibodies, antigens, lectins, neurochemical receptors, oligonucleotides, polynucleotides, molecules of DNA, molecules of RNA, active fragments or subunits or single strands of the preceding molecules, and mixtures thereof.

50. An analyte attenuation layer comprising a film of a siloxane-nonsiloxane copolymer and which film has a thickness sufficient to attenuate the transport therethrough of analyte species having a molecular weight of about 120 or more.

51. The analyte attenuation layer of claim 50 in which said copolymer is selected from the group consisting of dimethylsiloxane-alkene oxide, tetramethyldisiloxane-divinylbenzene, tetramethyldisiloxane-ethylene, dimethylsiloxane-silphenylene, dimethylsiloxane-silphenylene oxide, dimethylsiloxane-methylstyrene, dimethylsiloxane-bisphenol A carbonate, and mixtures thereof.

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L25: Entry 62 of 96 File: USPT Nov 3, 1992

DOCUMENT-IDENTIFIER: US 5160597 A
TITLE: Sensor with antigen chemically bonded to a semiconductor device

CLAIMS:

1. A sensor constructed of an imunochemical membrane adhering to a silicon oxide surface of an electrolyte oxide semiconductor or a chemical field effect transistor through a polysiloxane matrix, said imunochemical membrane formed from a monolayer consisting of a functionalized antigen or a polymeric multilayer consisting of a functionalized antigen and a protein, said imunochemical membrane being directly bonded chemically to the polysiloxane matrix by functional groups present on the said antigen or by bifunctional coupling agents present on said protein and the polysiloxane matrix being chosen from organosilanes of the formula: ##STR7## wherein R.sup.II, R.sup.III and R.sup.IV, which may be the same or different, are each C.sub.1-10 alkyl or alkoxy, R is (CH.sub.2).sub.m X(CH.sub.2).sub.n, wherein X is CH.sub.2 or a mono- or polycondensed aromatic group, NH or O; m and n, which are equal or different, are each 0-10, but not 0 when X is NH or O; Y is --NH.sub.2, --OH or --SH; or from functional organosilanes of the formula: ##STR8## wherein R.sub.1 and R.sub.2, which are the same or different, are Cl, Br, CH.sub.3, NO.sub.2, NH.sub.2 or H; R.sup.II, R.sup.III and R.sup.IV, which are the same or different, are C.sub.1-10 alkyl or alkoxy groups and R.sup.I is C.sub.1-10 alkyl, aminoalkyl, aminoalkylaryl or alkylaryl.

2. The sensor as claimed in claim 1, wherein the functionalized antigen is N-ethyl-N'-isopropyl-6-methylsulfoxide-1,3,5-triazine-2,4-diamine.

L25: Entry 66 of 96 File: USPT Nov 5, 1991

DOCUMENT-IDENTIFIER: US 5063081 A
TITLE: Method of manufacturing a plurality of uniform microfabricated sensing devices having an immobilized ligand receptor

CLAIMS:

4. The method of claim 1 in which said ligand receptor is selected from the group consisting of ionophores, cofactors, polypeptides, proteins, glycoproteins, enzymes, immunoglobulins, antibodies, antigens, lectins, neurochemical receptors, oligonucleotides, polynucleotides, molecules of DNA, molecules of RNA, active fragments or subunits or single strands of the preceding molecules, and mixtures thereof.

6. The method of claim 1 in which said ligand receptor is an antigen.

15. The method of claim 1 in which said permselective layer comprises a copolymer of a siloxane compound and a nonsiloxane compound.

16. The method of claim 15 in which said copolymer is selected from the group consisting of dimethylsiloxane-alkene oxide, tetramethyldisiloxane-divinylbenzene, tetramethyldisiloxane-ethylene, dimethylsiloxane-silphenylene, dimethylsiloxane-silphenylene oxide, dimethylsiloxane, methylstyrene, and dimethylsiloxane-bisphenol A carbonate, and mixtures thereof.

17. The method of claim 15 in which said copolymer is dimethylsiloxane-bisphenol A carbonate.

L25: Entry 90 of 96 File: USPT Apr 10, 1984

DOCUMENT-IDENTIFIER: US 4442060 A
TITLE: Injection-molding of pasty, thermosetting organopolysiloxane compositions

CLAIMS:

1. A process for the production of an injection-molded, elastomeric shaped article, comprising injection-molding, at a temperature ranging from about 125.degree. C. to about 225.degree. C., a pasty organopolysiloxane composition of matter having a viscosity ranging from about 4,000 to 55,000 Pa.s at 25.degree. C. comprising an intimate admixture of:

(A.sub.1) 100 parts by weight of a diorganopolysiloxane oil having a viscosity of 500 to 300,000 mPa.s at 25.degree. C., consisting essentially of recurring units of the formula R.sub.2 SiO and blocked at each end of the chain by units of the formula R.sub.2 R'SiO.sub.0.5, in which formulae the symbols R, which are identical or different, represent hydrocarbon radicals which are unsubstituted or substituted by halogen atoms or cyano groups and which have 1 to 8 carbon atoms, and the symbol R' represents the same radicals as the symbols R and also a hydroxyl radical, an alkoxy radical having from 1 to 4 carbon atoms or a .beta.-methoxyethoxy radical;

(B.sub.1) 10 to 75 parts by weight of a finely divided, reinforcing silica having a specific surface area of at least 50 m.sup.2 /g;

(C.sub.1) 1 to 20 parts by weight of a structuring inhibitor; and

(D.sub.1) 0.1 to 4 parts by weight of 2,4-dichlorobenzoyl peroxide cross-linking agent.

8. The process as defined by claim 6, further comprising, in an amount ranging from 0.05 to 5 parts by weight per 100 parts by weight of the constituent A.sub.1, of an adjuvant selected from the group consisting of:

(i) a silane of the formulae: ##STR4## in which the symbols R" represent methyl, ethyl, n-propyl or .beta.-methoxyethyl radicals and the symbol R"' represents a hydrogen atom or the methyl radical, and

(ii) a product of partial hydrolysis or partial co-hydrolysis of said silanes.

9. The process as defined by claim 6, wherein said structuring inhibitor C.sub.1 comprising a diorganopolysiloxane oil having a viscosity ranging from about 5 to about 500 mPa.s at 25.degree. C., and chain terminated with either a hydroxyl radical and/or an alkoxy radical having from 1 to 3 carbon atoms.

WEST Search History

DATE: Wednesday, March 05, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT; PLUR=YES; OP=AND			
L1	atelocollagen or atelo-collagen	151	L1
DB=JPAB,EPAB,DWPI; PLUR=YES; OP=AND			
L2	atelocollagen or atelo-collagen	82	L2
DB=USPT; PLUR=YES; OP=AND			
L3	pdms! or polydimethylsiloxane or poly-dimethyl-siloxane or polydimethyl-siloxane or $siloxane	46661	L3
L4	L3.clm.	15514	L4
L5	(L1 or l2).ti,ab,clm.	47	L5
L6	L5 and (disper$ or mixture or mixed or distribu$ or evenly).clm.	30	L6
L7	L3 and (disper$ or mixture or mixed or distribu$ or evenly).clm.	23039	L7
L8	L3.ti,ab,clm. and (disper$ or mixture or mixed or distribu$ or evenly).clm.	8547	L8
L9	L8 and carrier$.clm.	551	L9
L10	L9 and (product or composition or $particles or products or compositions or gel or film or sponge or rod or bar or particle or particles).clm.	463	L10
L11	L10 not $siloxane	1	L11
L12	pdms! or polydimethylsiloxane or poly-dimethyl-siloxane or	12257	L12

	polydimethyl-siloxane		
L13	L12.ti,ab,clm.	2254	L13
L14	L13 and l8	1404	L14
L15	L14 and l9	101	L15
L16	L15 and l10	94	L16
L17	L16 and (antigen or antigenic or immunogen or immunogenic or vaccine or vaccination or immunopotentiating or adjuvant)	19	L17
L18	L16 and (antigen or antigenic or immunogen or immunogenic or vaccine or vaccination or immunopotentiating or adjuvant).clm.	9	L18
L19	l4 and (antigen or antigenic or immunogen or immunogenic or vaccine or vaccination or immunopotentiating or adjuvant).clm	0	L19
L20	l4 and (antigen or antigenic or immunogen or immunogenic or vaccine or vaccination or immunopotentiating or adjuvant).clm	0	L20
L21	L12.clm. and (antigen or antigenic or immunogen or immunogenic or vaccine or vaccination or immunopotentiating or adjuvant).clm	0	L21
L22	L12.clm. and (antigen or antigenic or immunogen or immunogenic or vaccine or vaccination or immunopotentiating or adjuvant).clm.	41	L22
L23	L3.clm. and (antigen or antigenic or immunogen or immunogenic or vaccine or vaccination or immunopotentiating or adjuvant).clm.	137	L23
L24	L23 not l18	128	L24
L25	l24 not l22	96	L25

END OF SEARCH HISTORY